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Aloha and Beaverton survey of optometric care at the Pacific University Family Vision Centers

Abstract

A random telephone survey was conducted in Aloha and Beaverton to determine the public's perception of the Pacific University Family Vision Centers located in Forest Grove and Portland, Oregon. Patients' satisfaction with care, familiarity with the Centers, and how they learned of the Centers were studied. Age, occupation, income, current eyecare provider, and distance willing to travel for eyecare were also factors considered. The results indicated that quality was the most important factor in selection of eyecare providers, and word of mouth was the method most often utilized in that selection.

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Committee Chair

Willard B. Bleything

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ALOHA AND BEAVERTON
SURVEY OF OPTOMETRIC CARE
AT THE PACIFIC UNIVERSITY FAMILY VISION CENTERS

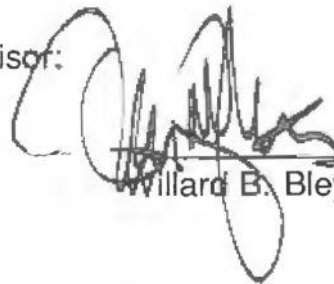
BY

MATTHEW H. LIPPARELLI

ROBERT T. GREGG, JR.

A thesis submitted to the faculty of the
College of Optometry
Pacific University
Forest Grove, Oregon
for the degree of
Doctor of Optometry
March, 1990

Advisor:

A handwritten signature in black ink, appearing to read 'Willard B. Bleything', written over a horizontal line.

Willard B. Bleything, O.D

AUTHORS:

MATTHEW H. LIPPARELLI

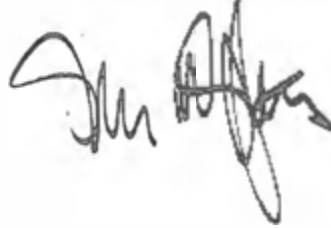
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ROBERT T. GREGG, JR.

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ADVISOR:

WILLARD B. BLEYTHING

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ALOHA AND BEAVERTON
SURVEY OF OPTOMETRIC CARE
AT THE PACIFIC UNIVERSITY FAMILY VISION CENTERS

STUDENT RESEARCHERS:

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BIOGRAPHY

Matthew H. Lipparelli attended the University of Nevada-Reno for four years where he received his B.S. in premedicine. He plans to enter private practice with his uncle in Salem, Oregon upon graduation.

Robert T. Gregg, Jr. attended Sonoma State University in Cotati, California for four years, and received his B.S. in visual science at Pacific University. He plans to practice optometry in Northern California specializing with the hearing impaired.

ABSTRACT

A random telephone survey was conducted in Aloha and Beaverton to determine the public's perception of the Pacific University Family Vision Centers located in Forest Grove and Portland, Oregon. Patients' satisfaction with care, familiarity with the Centers, and how they learned of the Centers were studied. Age, occupation, income, current eyecare provider, and distance willing to travel for eyecare were also factors considered. The results indicated that quality was the most important factor in selection of eyecare providers, and word of mouth was the method most often utilized in that selection.

ACKNOWLEDGEMENTS

We would like to thank Dean Bleything for his guidance into the organization and format of this thesis.

INTRODUCTION

The Pacific University Family Vision Centers located in Forest Grove and Portland are designed to introduce optometry students to all aspects of optometric practice. The prime objective of the Family Vision Centers is to provide the public with primary vision care which includes full 21-point eye examinations, vision therapy, low vision, contact lenses, pediatric vision care, and ocular diseases and special testing services.

The purpose of this survey is to measure the public's awareness and perceptions of the Family Vision Centers. It will also help in enabling Pacific University in targeting specific communities for information and future marketing. Data regarding patient satisfaction with the centers or their current provider will provide information in marketing to increase the centers' patient load through a planned marketing strategy.

A telephone survey was chosen over other survey methods because it provides direct communication to the target population. Other benefits of a telephone survey are increased compliance of the respondents, speed in gathering the information, and reduced cost in conduction of the survey. With the aid of a telephone book, a completely random sample of the Aloha-Beaverton population was gathered without socio-eco-

conomic or geographic bias. The survey was conducted in the months of October through December of 1989 and consisted of 13 questions (see SURVEY QUESTIONNAIRE).

METHOD

Subjects

The population used in the survey consisted of the two communities of Aloha and Beaverton. Aloha--12,000, Beaverton--32,265, Total--44,265.¹

Procedure

The procedure used to gather the data was a telephone survey. In order to produce a random sample, the number of telephone book pages was totaled and then divided by the sample size required for each community (see Table 1). Telephone numbers were chosen from the G.T.E. Washington County and Portland West Hills December 1989/90 directory. As suggested by Dillman, listings were selected in the appropriate page by choosing the first listing within the desired community.²

It was found that the most appropriate time to gather information occurred between 6:00 p.m. and 9:00 p.m. due to the higher probability that people would be at their homes during this time. The total population surveyed in Aloha was 100 out of a pool of 12,000 (.83%). For Beaverton the number surveyed was 300 out of a possible 32,265 (.93%). For the entire survey,

SURVEY QUESTIONNAIRE

1. HAVE YOU EVER HEARD OF THE PACIFIC UNIVERSITY FAMILY VISION CENTER AT THE PORTLAND MEDICAL CENTER OR IN FOREST GROVE?---RECORD THEN #2; IF NO #6
2. HAVE YOU EVER USED EITHER FACILITY?---RECORD THEN #3; IF NO #6
3. ON A SCALE OF 1 TO 10, WHAT WAS THE QUALITY OF CARE THERE? ONE BEING POOREST AND TEN BEING THE BEST.---RECORD 1-10 THEN #4
4. WOULD YOU RETURN THERE FOR CARE OR RECOMMEND CARE THERE FOR SOMEONE ELSE?---IF YES, RECORD THEN #5; IF NO, RECORD WHY NOT, THEN #5.
5. HOW DID YOU FIRST LEARN OF THE CLINIC?---A) PHONEBOOK B) RADIO C) T.V. D) NEWSPAPER E) FRIEND F) WORD OF MOUTH G) DOCTOR RECOMMENDED OR REFERRED
6. WHO DO YOU CURRENTLY USE FOR YOUR VISION CARE?---A) OPTOMETRIST B) OPHTHALMOLOGIST C) CHAIN
7. HOW FAR ARE YOU WILLING TO TRAVEL FOR YOUR VISION CARE?---A) LESS THAN 5 MILES B) 5 TO 10 MILES C) 10 MILES OR MORE
8. WHAT IS THE MOST IMPORTANT FACTOR IN SELECTING YOUR VISION CARE?---A) QUALITY OF CARE B) SPEED OF SERVICE C) COST
9. HOW DID YOU FIRST LEARN OF YOUR CURRENT EYECARE PROVIDER?---A) PHONEBOOK B) RADIO C) T.V. D) NEWSPAPER E) FRIEND F) WORD OF MOUTH G) DOCTOR RECOMMENDED OR REFERRED

10. WHAT IS YOUR OCCUPATION?

11. HOW MANY PEOPLE ARE LIVING IN YOUR HOUSEHOLD?

12. WHAT ARE THE AGES OF THE PEOPLE LIVING IN YOUR HOUSEHOLD?---0) 0-9 1) 10-19 2) 20-29 3) 30-39 4) 40-49 5) 50-59 6) 60-69 7) 70-79

13. FROM THIS LIST, WHAT IS YOUR APPROXIMATE ANNUAL HOUSEHOLD INCOME?---A) 6-10,000 B) 11-15,000 C) 16-20,000 D) 21-30,000 E) 31-40,000 F) 41-60,000 G) GREATER THAN 60,000

Table 1

ALOHA AND BEAVERTON 1990

<u>CITY</u>	<u>POPULATION</u>	<u># OF CALLS</u>	<u># OF PAGES/CALL</u>
ALOHA	12,000	100	4.5
BEAVERTON	32,265	300	2
TOTAL	44,265	400	6.5

Figure 1 - Aloha Awareness Of Centers

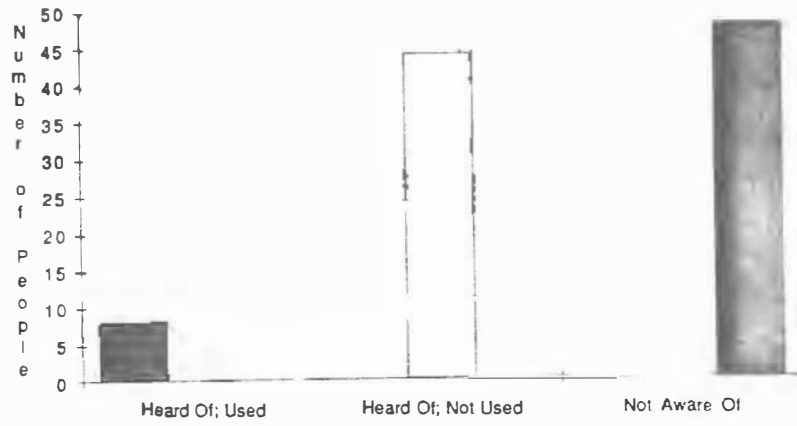


Figure 2 - Beaverton Awareness Of Centers

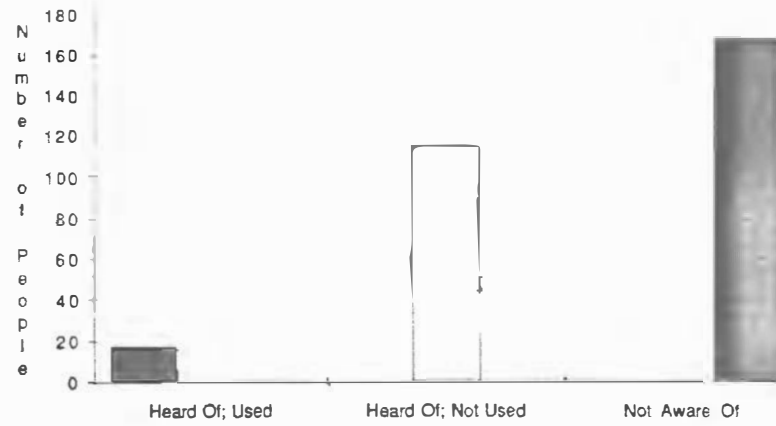
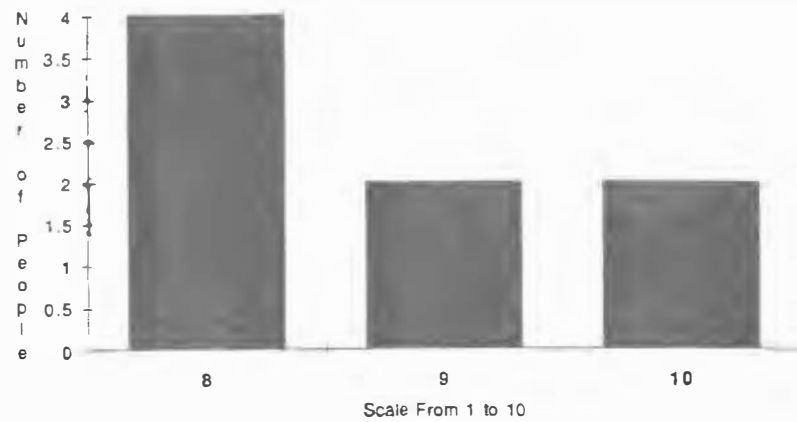


Figure 3 - Aloha Scale From 1 To 10



the total number of completed calls was 400 out of a pool of 44,265 (.91%). Shevky and Mishler have stated that 1% of the total population is a sufficient amount for a true representation of the public.^{3,4} We feel that our sample size is close enough to the one percent amount to obtain the true views of the target population.

RESULTS

In the Aloha District, 52 out of 100 respondents had heard of the centers (52%) while 48 had not (48%). Out of the 52 respondents who had heard of the centers, 8 had used the centers (15.4%) while 44 had not (84.6%) (see Figure 1). In the Beaverton district, 132 out of 300 respondents had heard of the centers (44%) while 168 had not (56%). Out of the 132 respondents who had heard of the centers, 17 had used the centers (12.9%) while 115 had not (87.1%) (see Figure 2).

Question 3 of the survey dealt with the rating of quality of the centers on a scale of 1 to 10, with one being the worse and 10 being the best. Of the 8 respondents in Aloha who had used the centers, 4 rated the quality an eight (50%), 2 rated it a nine (25%), and 2 rated it a ten (25%) (see Figure 3). In the Beaverton district, out of the 17 respondents who had used the centers, 8 rated the quality an eight (47.1%), 3 rated it a nine (17.6%), and 6 rated it a ten (35.3%) (see Figure 4).

Question 4 asked if the people who had used the centers

Figure 4 - Beaverton Scale From 1 To 10

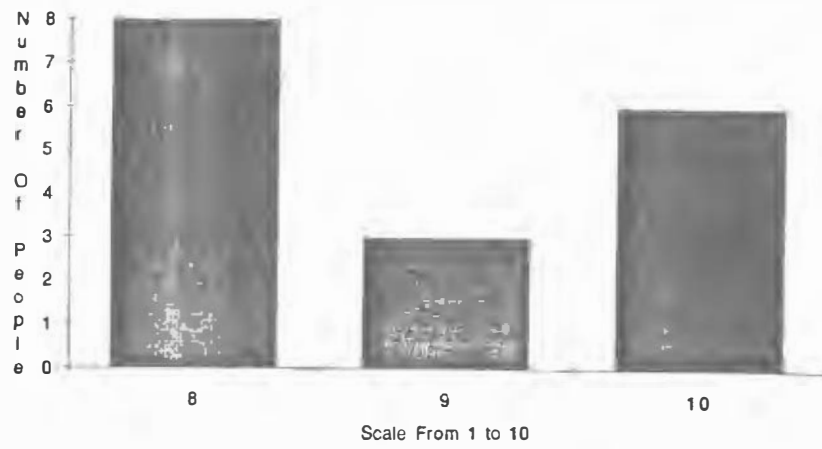


Figure 5 - How Aloha Became Aware Of Centers

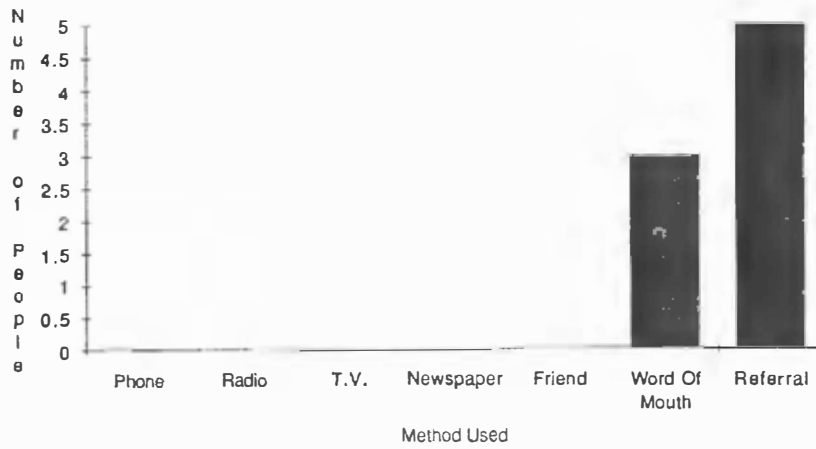
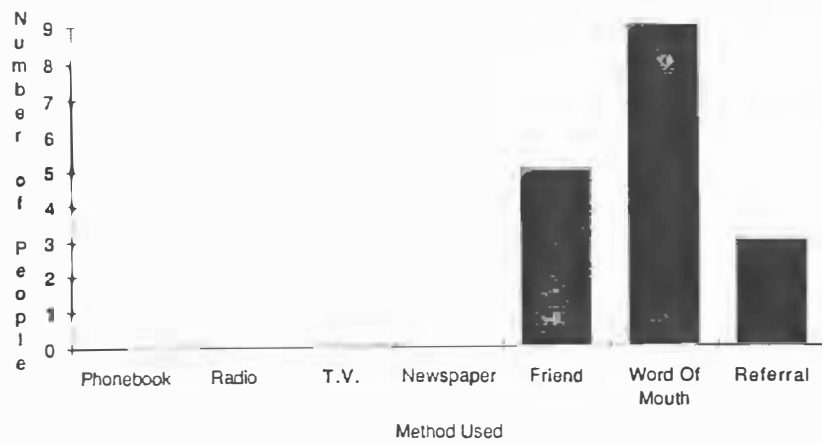


Figure 6 - How Beaverton Became Aware Of Centers



would return for care or would recommend care there for someone else. All respondents in both communities stated they would return or recommend care for someone else (100%).

Question 5 asked how the respondents who had used the centers had first learned of their existence. In the Aloha community, 3 out of a possible 8 respondents had first learned by word of mouth (37.5%) and 5 had learned by doctor referral or recommendation (62.5%) (see Figure 5). In the Beaverton community, 5 out of a possible 17 respondents had first learned by friend (29.4%), 9 had learned by word of mouth (52.9%), and 3 had learned by doctor referral or recommendation (17.7%) (see Figure 6).

Question 6 asked the respondents who they currently use for vision care. In the Aloha community, out of the 8 respondents who had heard of and used the centers, 7 currently use an optometrist for vision care (87.5%), and 1 uses an ophthalmologist (12.5%). Out of the 44 respondents who had heard of and not used the centers, 13 currently use an optometrist for vision care (29.6%), 9 use an ophthalmologist for care (20.4%), 12 use an optical chain (27.3%), and 10 stated they have no vision care provider (22.7%). Of the 48 respondents who had not heard of the centers, 17 currently use an optometrist for care (35.4%), 7 use an ophthalmologist (14.6%), 9 use an optical chain (18.7%), and 15 have no provider (31.3%) (see Figure 7). In the Beaverton district, out of the 17 respondents who had heard of and used the centers, 8

Figure 7 - Aloha Eyecare Providers

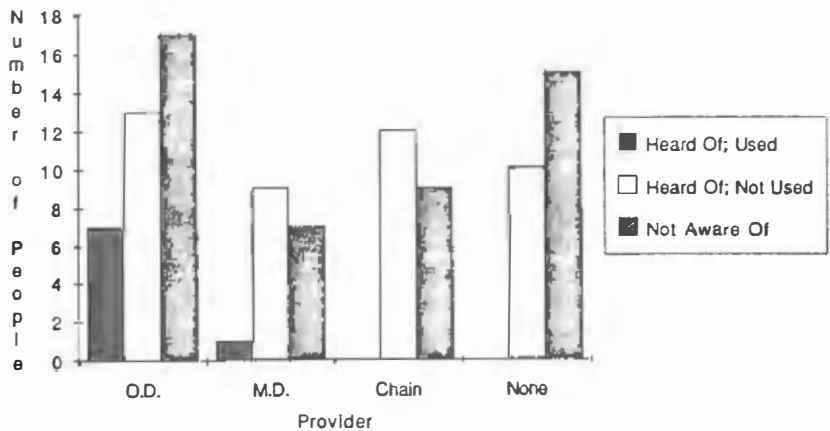


Figure 8 - Beaverton Eyecare Providers

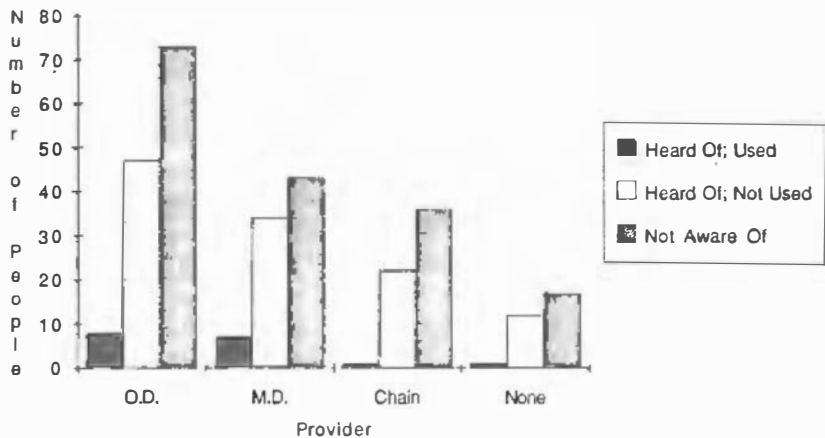
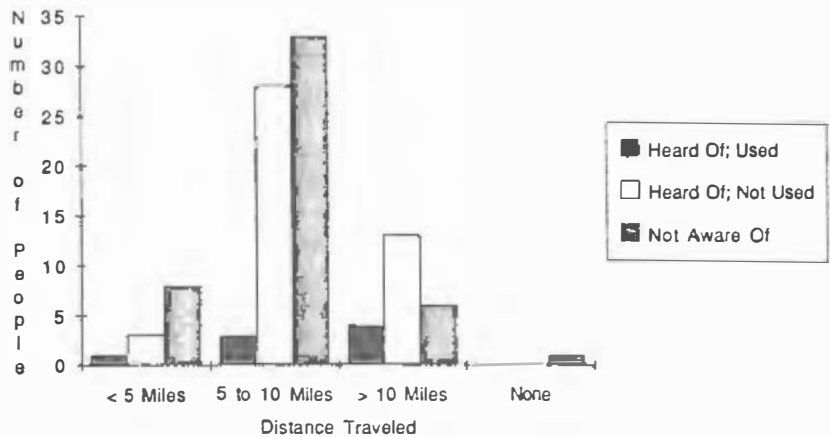


Figure 9 - Aloha Distance Willing To Travel



currently use an optometrist for care (47%), 7 use an ophthalmologist for care (41.2%), 1 uses an optical chain (5.9%), and 1 uses no vision care provider (5.9%). Out of the 115 respondents who had heard of and not used the centers, 47 use an optometrist for care (40.9%), 34 use an ophthalmologist (29.6%), 22 use an optical chain (19.1%), and 12 have no provider (10.4%). Of the 168 respondents who had not heard of the centers, 73 use an optometrist for care (43.5%), 43 use an ophthalmologist (25.6%), 36 use an optical chain (21.4%), and 17 have no provider (9.5%) (see Figure 8).

Question 7 asked how far the respondents were willing to travel for vision care. In the Aloha community, of the 8 respondents who had heard of and used the centers, 1 was willing to travel < 5 miles (12.5%), 3 were willing to travel 5 to 10 miles (37.5%), and 4 were willing to travel > 10 miles (50%). Of the 44 respondents who had heard of and not used the centers, 3 were willing to travel < 5 miles (6.8%), 28 were willing to travel 5 to 10 miles (63.6%), and 13 were willing to travel > 10 miles (29.6%). Of the 48 respondents who had not heard of the centers, 8 were willing to travel < 5 miles (16.7%), 33 were willing to travel 5 to 10 miles (68.8%), 6 were willing to travel > 10 miles (12.5%), and 1 had no response to the question (2.1%) (see Figure 9). In the Beaverton district, out of the 17 respondents who had heard of and used the centers, 5 were willing to travel < 5 miles (29.4%), 3 were willing to travel 5 to 10 miles (17.7%), and 9 were willing to travel > 10

Figure 10 - Beaverton Distance Willing To Travel

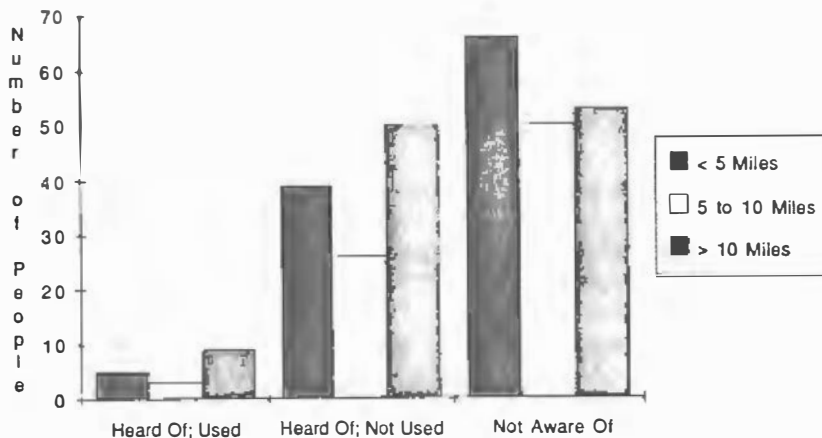


Figure 11 - Aloha Important Factor

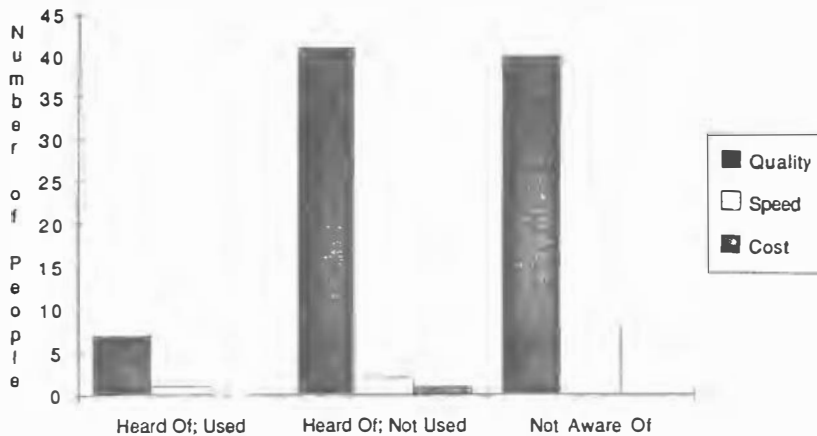
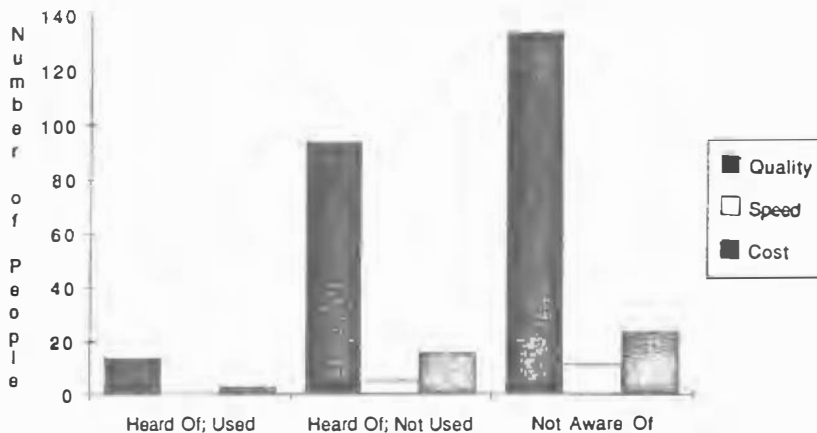


Figure 12 - Beaverton Important Factor



miles (52.9%). Of the 115 respondents who had heard of and not used the centers, 39 were willing to travel < 5 miles (33.9%), 26 were willing to travel 5 to 10 miles (22.6%), and 50 were willing to travel > 10 miles (43.5%). Of the 168 respondents who had not heard of the centers, 66 were willing to travel < 5 miles (39.3%), 50 were willing to travel 5 to 10 miles (29.8%), and 53 were willing to travel > 10 miles (31.5%) (see Figure 10).

Question 8 dealt with the respondents' most important factor in selecting vision care. In the Aloha community, of the 8 respondents who had heard of and used the centers, 7 listed quality as the most important factor (87.5%), while 1 listed speed (12.5%), and none listed cost. Of the 44 respondents who had heard of and not used the centers, 41 listed quality (93.2%), 2 listed speed (4.5%), and 1 listed cost (2.3%). Of the 48 respondents who had not heard of the centers, 40 listed quality (83.3%), 8 listed speed (16.7%), and none listed cost (see Figure 11). In the Beaverton community, out of the 17 respondents who had heard of and used the centers, 14 listed quality (82.4%), none listed speed, and 3 listed cost (17.6%). Of the 115 respondents who had heard of and not used the centers, 94 listed quality (81.7%), 5 listed speed (4.3%), and 16 listed cost (13.9%). Of the 168 respondents who had not heard of the centers, 134 listed quality (79.8%), 11 listed speed (6.6%), and 24 listed cost (14.3%) (see Figure 12).

Question 9 asked how the respondents heard of their current

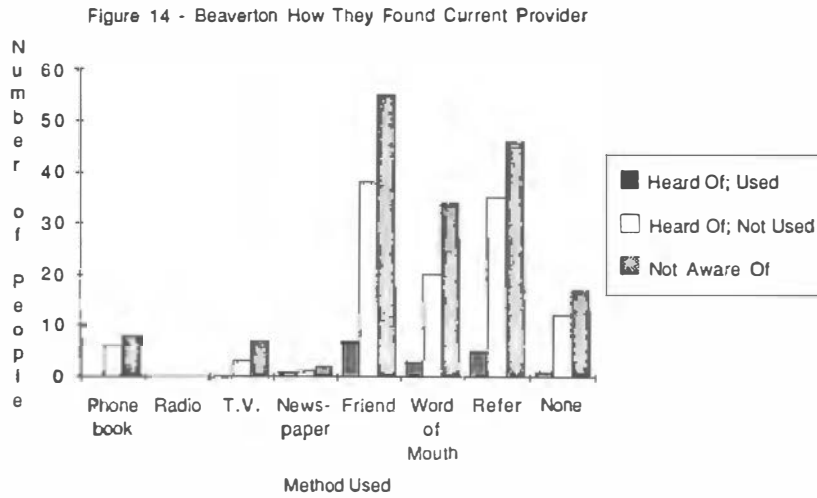
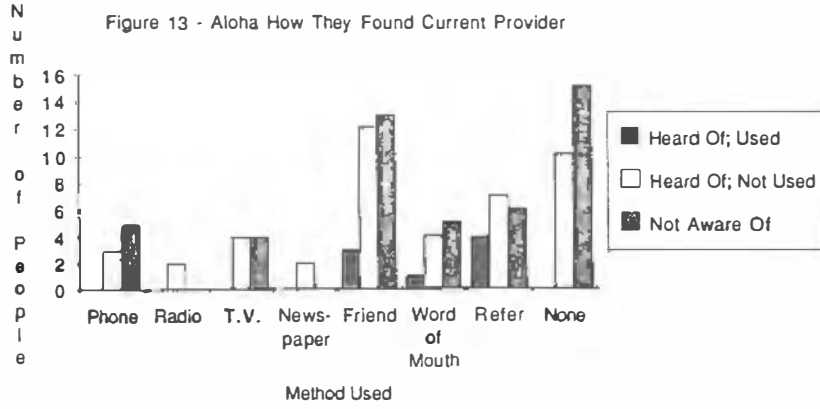
eyecare provider. In the Aloha district, of the 8 respondents who had heard of and used the centers, 3 learned from a friend (37.5%), 1 learned by word of mouth (12.5%), and 4 learned through doctor referral or recommendation (50%). Of the 44 respondents who had heard of and not used the centers, 3 learned from a phonebook (6.8%), 2 from radio (4.5%), 4 from T.V. (9.1%), 2 from a newspaper (4.5%), 12 from a friend (27.3%), 4 by word of mouth (9.1%), 7 from doctor referral or recommendation (15.9%), and 10 do not use a provider (22.7%).

Of the 48 respondents who had not heard of the centers, 5 learned of their current eyecare provider from a phonebook (10.4%), 4 from T.V. (8.3%), 13 from a friend (27.1%), 5 by word of mouth (10.4%), 6 from doctor referral or recommendation (12.5%), and 15 do not use a provider (31.3%) (see Figure 13).

In the Beaverton community, out of the 17 respondents who had heard of and used the centers, 1 learned of their current eyecare provider from a newspaper (5.9%), 7 from a friend (41.2%), 3 by word of mouth (17.7%), 5 from doctor referral or recommendation (29.4%), and 1 does not use a current provider (5.9%).

Of the 115 respondents who had heard of and not used the centers, 6 learned of their current eyecare provider from a phonebook (5.2%), 3 from T.V. (2.6%), 38 from a friend (33%), 20 by word of mouth (17.4%), 35 from doctor referral or recommendation (30.4%), and 12 do not use a current provider (10.4%).

Of the 168 respondents who have not heard of the centers, 8 learned of their current eyecare provider from



a phonebook (4.8%), 7 from T.V. (4.2%), 2 from a newspaper (1.2%), 55 from a friend (32.7%), 34 by word of mouth (20.2%), 46 from doctor referral or recommendation (27.4%), and 17 do not use a current provider (10.1%) (see Figure 14).

Question 11 asked how many people are currently living in the respondents' household. In the Aloha community, out of the 8 respondents who had heard of and used the centers, 4 had two persons in the household (50%), 1 had three (12.5%), and 3 had four (37.5%). Of the 44 respondents who had heard of and not used the centers, 6 had one person (13.6%), 15 had two (34.1%), 7 had three (15.9%), 5 had four (11.4%), 5 had five (11.4%), 2 had six (4.6%), 1 had seven (2.3%), and 3 chose not to respond (6.8%). Of the 48 respondents who had not heard of the centers, 6 had one person in the household (12.5%), 16 had two (33.3%), 7 had three (14.6%), 12 had four (25%), 4 had five (8.3%), 1 had six (2.1%), and 2 chose not to respond (4.2%) (see Figure 15). In the Beaverton community, of the 17 respondents who had heard of and used the centers, 6 had one person in the household (35.3%), 5 had two (29.4%), 4 had three (23.5%), and 2 had five (11.8%). Of the 115 respondents who had heard of and not used the centers, 16 had one person in the household (13.9%), 45 had two (39.1%), 34 had three (29.6%), 11 had four (9.6%), 1 had five (0.9%), 3 had six (2.6%), and 5 chose not to answer (4.3%). Of the 168 respondents who had not heard of the centers, 23 had one person in the household (13.7%), 50 had two (29.8%), 50 had three (29.8%), 24 had four (14.3%), 9 had five

Figure 16 - Beaverton People in Household

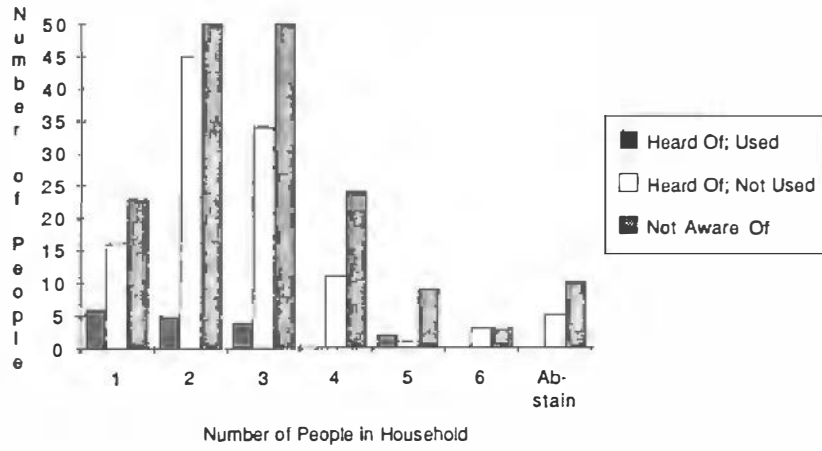


Figure 17 - Aloha Income

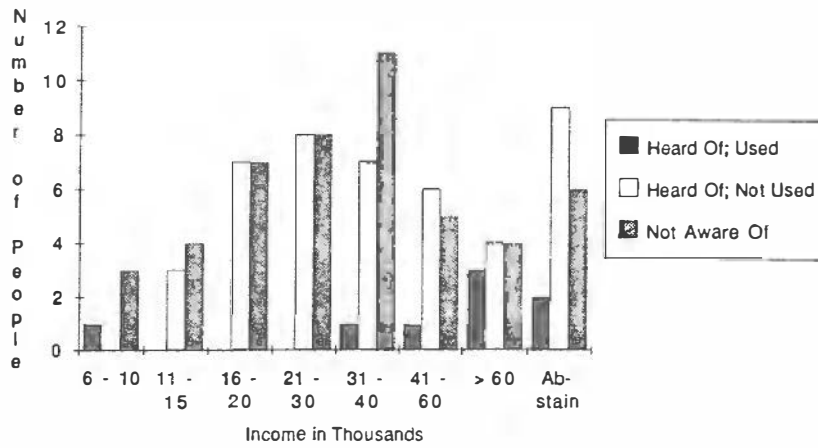
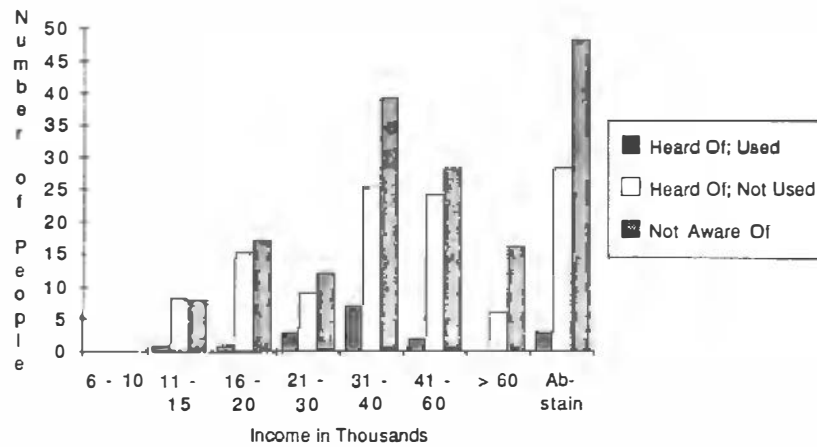


Figure 18 - Beaverton Income



(5.4%), 3 had six (1.8%), and 10 chose not to answer (6%) (see Figure 16).

Question 13 dealt with the approximate annual household income of the respondents. In the Aloha community, of the 8 respondents who had heard of and used the centers, 1 household made 6-10,000 annually (12.5%), 1 made 31-40,000 (12.5%), 1 made 41-60,000 (12.5%), 3 made > 60,000 (37.5%), and 2 respondents chose not to answer (25%). Of the 44 respondents who had heard of and not used the centers, 3 made 11-15,000 annually (6.8%), 7 made 16-20,000 (15.9%), 8 made 21-30,000 (18.2%), 7 made 31-40,000 (15.9%), 6 made 41-60,000 (13.6%), 4 made > 60,000 (9.1%), and 9 respondents chose not to answer (20.5%). Of the 48 respondents who had not heard of the centers, 3 made 6-10,000 annually (6.3%), 4 made 11-15,000 (8.3%), 7 made 16-20,000 (14.6%), 8 made 21-30,000 (16.7%), 11 made 31-40,000 (22.9%), 5 made 41-60,000 (10.4%) 4 made > 60,000 (8.3%), and 6 respondents chose not to answer (12.5%) (see Figure 17). In the Beaverton community, of the 17 respondents who had heard of and used the centers 1 household made 11-15,000 annually (5.9%), 1 made 16-20,000 (5.9%), 3 made 21-30,000 (17.6%), 7 made 31-40,000 (4.2%), 2 made 41-60,000 (11.8%), and 3 respondents chose not to answer (17.6%). Of the 115 respondents who had heard of and not used the centers, 8 households made 11-15,000 annually (7%), 15 made 16-20,000 (13%), 9 made 21-30,000 (7.8%), 25 made 31-40,000 (21.7%), 24 made 41-60,000 (20.9%), 6 made >

60,000 (5.2%), and 28 chose not to respond (24.3%). Of the 168 respondents who had not heard of the centers, 8 households made 11-15,000 annually (4.8%), 17 made 16-20,000 (10.1%), 12 made 21-30,000 (7.1%), 39 made 31-40,000 (23.2%), 28 made 41-60,000 (16.7%), 16 made > 60,000 (9.5%), and 48 chose not to respond (28.6%) (see Figure 18).

Figure 19 - Combined Awareness Of Centers

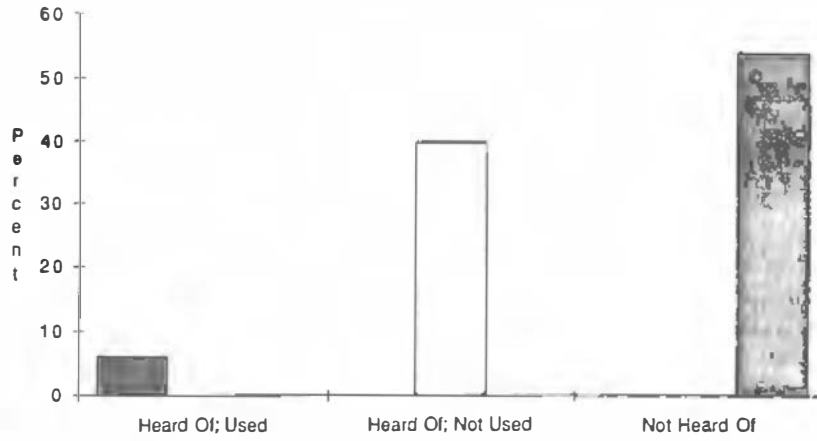


Figure 20 - Combined Scale From 1 To 10

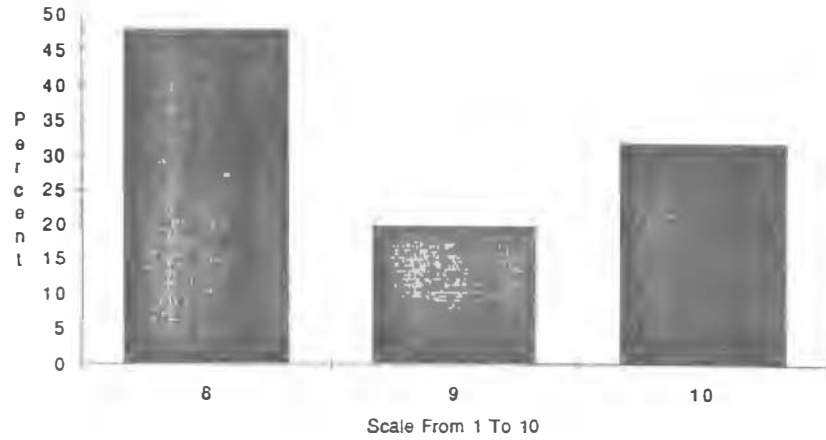
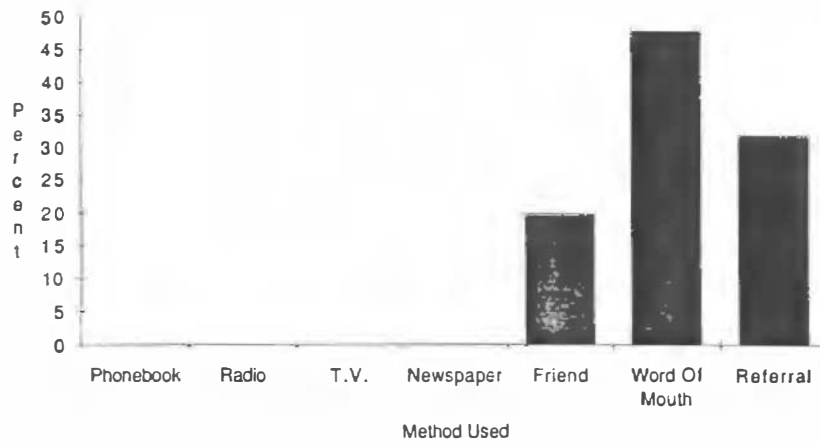


Figure 21 - How Combined Became Aware Of Centers



DISCUSSION

Due to the vast similarities in the responses to the questions presented to the two communities, for all intent and purposes they can be considered one population. Thus, the community responses were combined to obtain a single population representation in order to determine which marketing strategies are needed and what particular groups of people need to be targeted.

The most striking characteristic is the high incidence of ignorance regarding the centers. Only 46% of the population surveyed was aware of the existence of the Pacific University Family Vision Centers with only 6.25% actually having received care there (see Figure 19). Although a small percentage of the population has visited the centers, those that have gave very high ratings regarding the quality of care (see Figure 20). The most common method in which this group learned of the centers was by word of mouth (see Figure 21). These same trends were also found by Groshart and Hall.⁵

It was found that the population prefers eyecare from a private optometrist nearly two to one over an ophthalmologist or an optical chain (e.g. Binyon's, Lenscrafters, etc.). Thirteen percent receive no form of eyecare at all (see Figure 22).

Nearly equal distributions of the population fit within the three categories of distance willing to travel (see Figure 23),

Figure 22 - Combined Eyecare Providers

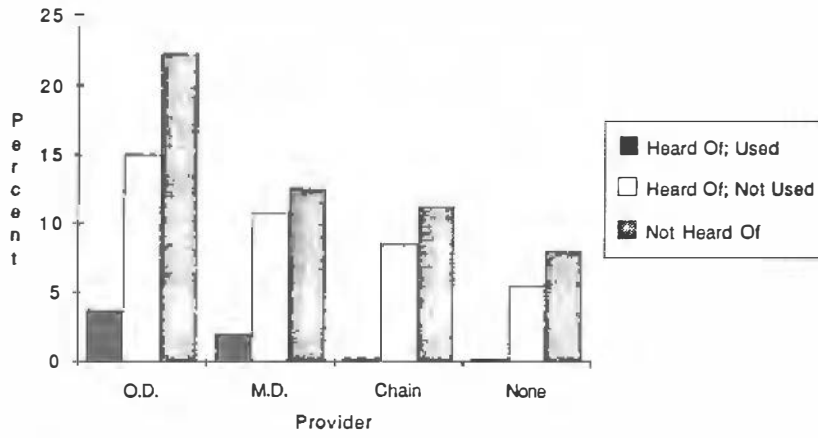


Figure 23 - Combined Distance Willing To Travel

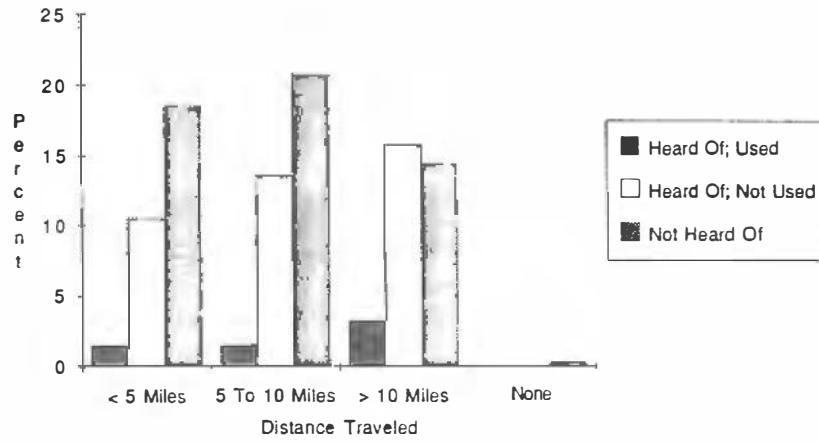
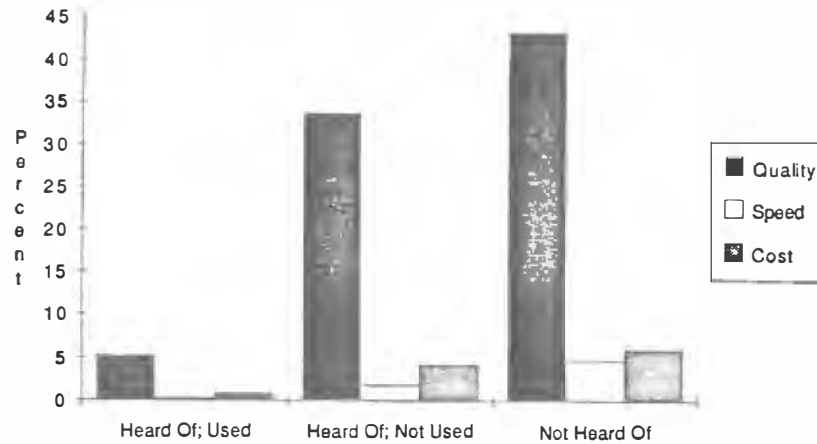


Figure 24 - Combined Important Factor



whether being aware of the existence of the centers or not.

The overwhelming majority of the population surveyed chose quality as the most important factor (82.5%) in selecting their eyecare provider over speed (6.75%) and cost (10.75%) (see Figure 24).

Concerning overall methods of learning the existence of current eyecare providers, again it was found that word of mouth and friends provided the best medium for information (see Figure 25).

All categories of awareness showed that most households in the population contained two people. This correlates with national averages conducted by the U.S. Bureau of Census (see Figure 26).⁶ Furthermore, each household population holds a similar ratio of awareness of the centers.

The survey showed that most households within the communities make an annual income of 31 - 40 thousand dollars with a fairly uniform distribution skewed slightly in the direction of higher income. According to the U.S. Bureau of Census, this indicates that most households in the Beaverton/Aloha area are in the upper-middle income bracket.⁶ Again, as in household population, all income brackets show a similar ratio of awareness of the centers (see Figure 27).

In summary, the survey indicated a low level of awareness although the centers are within a 10 mile radius of the target communities. The majority of the community would most

Figure 25 - Combined How They Found Current Provider

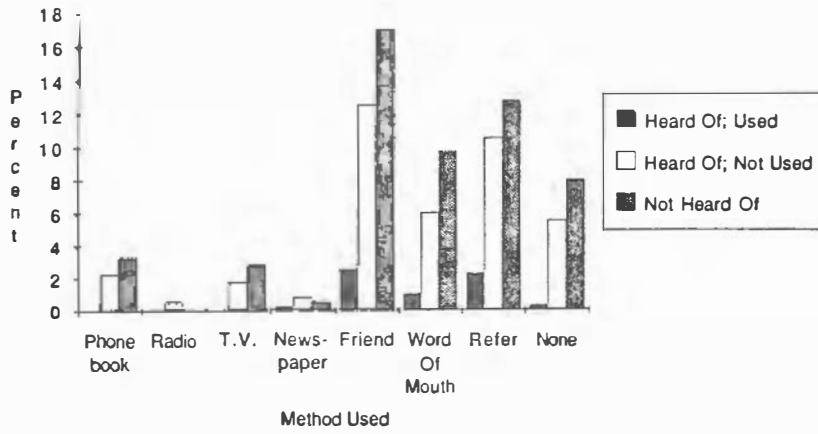


Figure 26 - Combined People in Household

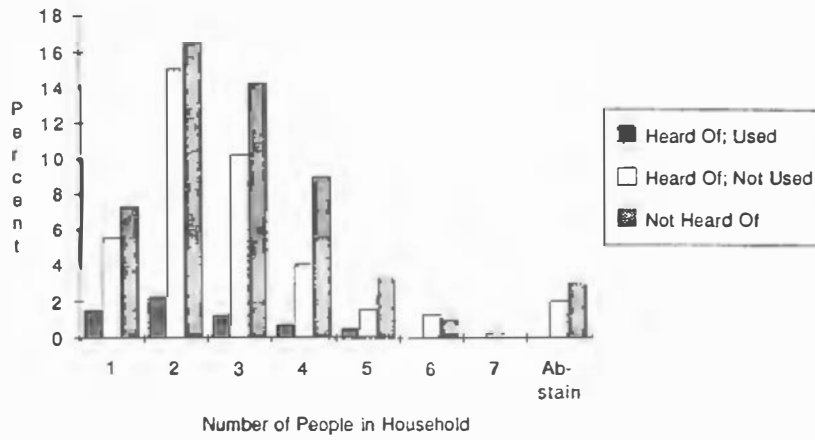
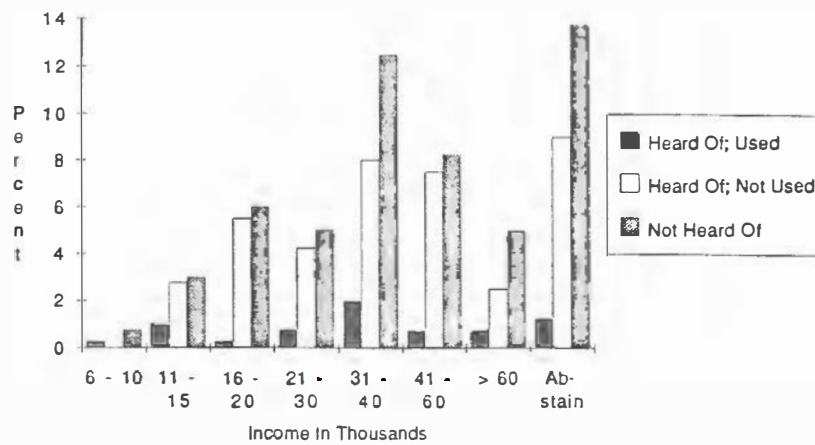


Figure 27 - Combined Income



likely utilize the services of the centers if they were aware of their existence since two-thirds of the population surveyed would travel 10 miles or more for eyecare. The Pacific University Family Vision Centers would accommodate these communities excellently since the people have indicated they hold quality in high regard (see Figure 24P). Furthermore, the people in these communities that have used the Centers rate the quality very high. These same trends were also reported by Glennie and Olsen along with Caton, Smiley, and Vassar.^{7,8}

It has been proven that the most common medium people use to find their eyecare providers is through word of mouth, friends, and doctor referrals or recommendations. It is therefore imperative that the Pacific University Family Vision Centers continue their high quality of care in order to insure that these avenues of communication are maintained (see Figure 25P).

The data shows that 54% of the population still needs to be made aware of the existence of the full-scope optometric eyecare that the Pacific University Family Vision Centers have to offer. The data further shows that 74% of the population receives information about eyecare through direct communication with other people and not through media devices. Therefore, it can be expected that an additional 40% of the population can be reached with correct utilization of direct communication.

Some strategies that the Pacific University Family Vision

Figure 24P - Combined Important Factor

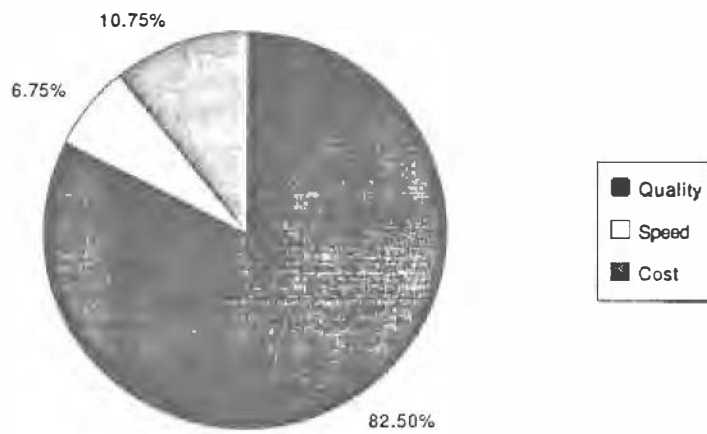
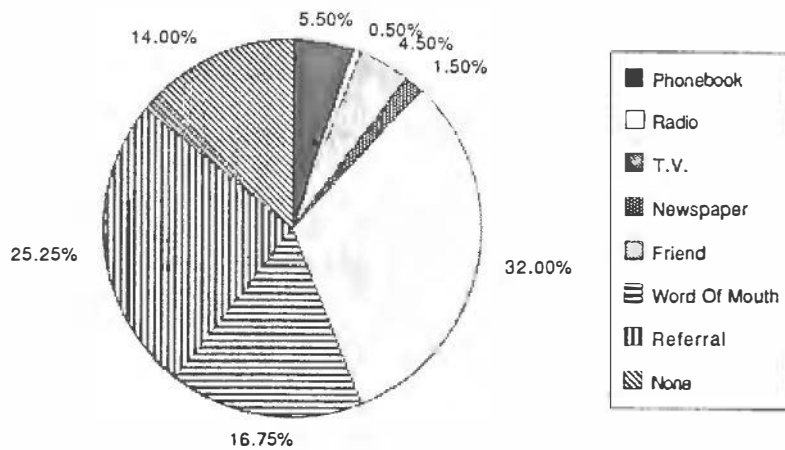


Figure 25P - Combined How They Found Current Provider



Centers could implement would include the handing out of pamphlets to all patients leaving the centers after an exam, letters to previous patients reminding them of the importance of regular eye exams, increased amounts of screenings in the Beaverton/Aloha area, and talks could be given by faculty and students to various public and private organizations within the communities.

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